Correspondence to: Dr Rita Browne, St Stephens Centre, Chelsea and Westminster Hospital, 369 Fulham Road, London, SW10 9NH, UK; rita.browne@chelwest.nhs.uk

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Transmission of *Neisseria gonorrhoeae* from a toilet seat

In August 2003 a prepubescent 8 year old girl presented with a sudden onset history of a non-irritating, odourless heavy green vaginal discharge which had developed overnight. She had arrived back in Sydney approximately 24 hours earlier by an international air flight following an overseas holiday with her mother and two adolescent siblings. The family had spent 72 hours in transit flying from Rome to Sydney via Moscow.

The child was taken initially to her family doctor and a heavy growth of *Neisseria gonorrhoeae* was isolated. The organism was resistant to both penicillin and ciprofloxacin. One week later, following an initial course of antibiotics, the child was referred to the author for assessment of possible sexual abuse and ongoing management of the *N gonorrhoeae* infection.

Before boarding a flight to Moscow the family had spent 3 days in a hotel, sightseeing and the previous 2 days with relatives. During the 8 days before arriving in Sydney, the mother had unusually close contact with the child, had shared a bedroom with her, and had accompanied her almost continually. The child's behaviour and demeanour had shown no change and both the child and the siblings were asymptomatic. When questioned by her mother, the child strongly denied any history of genital contact.

The flights to and from Moscow were noted to be full with no spare seats. Both the mother and the child stated that there were queues to use the toilets during both flights and that by the end of the flights the ''toilets were very dirty.''

The mother stated that when the child used a public toilet the child always wiped the seat with toilet paper before using it. The child confirmed this. She said her fingers occasionally became dirty while wiping the seat.

Genital examination of the child revealed no significant redness of the introitus or physical abnormality. She had an intact annular hymen; however, the absence of genital injury has no relevance in making a diagnosis that excludes sexual abuse.[1]

As part of the routine investigation, the matter was reported the New South Wales Department of Community Services and all family members were tested for *N gonorrhoeae* and were negative.

It is important that all cases of *N gonorrhoeae* in children be fully investigated for sexual abuse, and reported to the relevant child protection authorities. There is no doubt that almost all gonococcal vaginal infections in prepubertal children are sexually transmitted,[2] and this may include those previously reported as non-sexual.[3] However it is also accepted that cases of non-sexual transmission of *N gonorrhoeae* in children do occur,[4] but proof beyond all doubt can be very difficult to document scientifically.

On the basis of the demeanour of the child, reports of increasing rates of gonorrhoea in the former Soviet Block countries,[5] the incubation period for symptomatic *N gonorrhoea*, the history from the mother and her unusually close supervision of the child, as well as the child's known behaviour in public toilets, it is the belief of the author that the child most probably contracted the infection via autoinoculation while using a mixed toilet in a crowded aeroplane.

L Dayan
Sexual Health Services, Northern Sydney Health, Clinic 16; Block 3, Royal North Shore Hospital, Pacific Highway, St Leonards; Sydney, Australia 2065; ldayan@doh.health.nsw.gov.au

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Detection of *Chlamydia trachomatis* by polymerase chain reaction in male patients with non-gonococcal urethritis attending an STD clinic

Genital infection with *Chlamydia trachomatis* (35–50%) is the single most identifiable cause of non-gonococcal urethritis (NGU) in heterosexual men and may have serious consequences, not only for men but for their partners. In India, a high prevalence of genital *C trachomatis* infection has been reported in women.[1] However, there is considerably less information on male chlamydial infection.[2 3] There is a definite need for reliable screening of *C trachomatis* genital infection in men in order to prevent underdiagnosis of genital chlamydial infection and to facilitate better clinical management of this infection in India. This study was undertaken with the aim to find the prevalence of *C trachomatis* infection in male patients with NGU attending the STD clinic of a major city hospital in north India.

After obtaining informed oral consent, 90 male patients (age 18–55 years) clinically suspected to have urethritis and attending the STD clinic at Safdarjang Hospital, New Delhi were enrolled. Of these, 85 NGU patients were included in the study on the basis of microscopic examination of urethral swab specimens for the presence of >10 polymorphonuclear neutrophils/high power field and negative results for *Neisseria gonorrhoeae*. None of the patients showed genital lesions. The patients belonged to various socioeconomic groups and the majority of them admitted to having extramarital heterosexual contact. The specimens were collected using sterile cotton tipped swabs (Hi Media, Mumbai, India) from the urethra of each patient after removing the secretions/discharge. The samples were collected in vials containing phosphate buffered saline for screening by a plasmid specific polymerase chain reaction (PCR) assay (517 bp)[1] and confirmation by culture in McCoy cell line followed by direct fluorescent assay (DFA) (Microtitre, Syva Corporation, Palo Alto, CA, USA) on infected coverslips.[4]

Urethral *C trachomatis* infection was found by PCR (fig 1) and culture in 20 (22.3%) and 21 (24.7%) symptomatic male NGU patients, respectively. Further, chlamydial infection was most common (27.6%; statistically non-significant) in men in the 26–35 years age group. In an earlier hospital based study on male NGU patients reported from India, *C trachomatis* and *Trichomonas vaginalis* were the most common pathogens found by culture in urethral discharge specimens, being responsible for 18% and 19% cases, respectively.[2] Another study from Chennai, India reported the prevalence of *C trachomatis* infection in male and female genital swab specimens as 18.9% and 32.2% by culture and PCR, respectively.[3] *Chlamydia* and *Ureaplasma urealyticum* were the most common infecting and co-infecting pathogens (51.5% by PCR in first void urine and 45.6% by culture in intra-urethral swab specimens, respectively) in male patients with NGU attending an Israeli STD clinic.[5] In a study from Turkey, the prevalence of *C trachomatis* and *N gonorrhoeae* (screened by ligase chain reaction in either

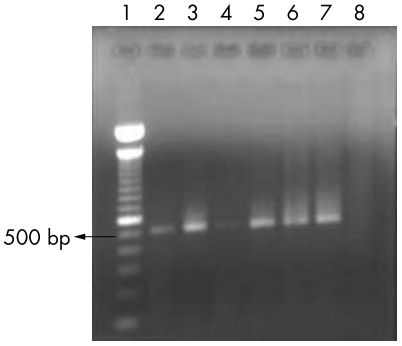

Figure 1 Detection of *Chlamydia trachomatis* by polymerase chain reaction in 1% agarose gel electrophoresis using 517 bp plasmid primer. Lane 1 is DNA marker. Lanes 2–6 show amplification of *C trachomatis*. Lane 8 is a negative control. Lane 7 is a positive control for *C trachomatis*.